Observations on the Physical Lambda Model invoking comparison with quasi Classical constructs.

We may invoke resonance of familiar classical constructs, within our dynamical scheme employing nuanced aspects of Newtonian Mechanics for example & others.

N.1.L : Let's start with the concept 'Moment of Inertia' say, $I = [m.\gamma]$

& as $mass\ m = \lambda^5$, & $Gamma\ [\gamma] = \lambda^2 \sim Area *$

we get $I = \lambda^7\ a.c.w\ sense$ and we say this remains as it is presented for all time, '*unless acted on by a force* '.

We note in this model, <u>gamma is both a force and time</u> , or { $\gamma \equiv F \equiv t$ } all at once or are identical &/or equivalent concepts used interchangeably at will, to suit the model concept. * *thus Kepler K.2.L Area = time*.

Then, $I = mass.Time = mass.Force = mass.Gamma$

Invoking { m . t } above for instance we could say within inertial frames [I] that mass is conserved, in a sense.

<u>Mass is conserved</u>, & *energy is created,* which allows for action when inertia is acted on by a force,

in this case we say, $m = dI/dt = \{m.\gamma\}/\gamma$

$$mass = \{\tfrac{m}{\gamma}\}.\gamma\ (+)\ m.\{\tfrac{\gamma}{\gamma}\} = \int e.dt\ (+)\ \gamma.\tfrac{dm}{dt}\ \text{quasi energy –mass equivalence from S.R.*}$$

The $(+)$ indicates that $l.h.s.\ \&\ r.h.s$ of the $+ve$ in parentheses are in

$* super-position\ i.e.\ both\ states\ are\ possible\ and\ may\ occur\ under\ the\ system\ Omega\ \omega$

In general, or in this specific case the gamma operator $[\tfrac{1}{\gamma}]$ can operate on m &/or γ.

this operator, also called the dot operator, -dot $\equiv 1/\gamma$, & can also be interpreted as a frequency f in the infinitesimal limit, &/or a standard 1st order time differential $\tfrac{d}{dt}$ in the model.

Now that we have mass & energy, we can say that this is the result of the <u>Action re-Action principle in Physics</u>.

This has Mach *resonance* of course & is an invocation of N.3.L.

We state ==Action [S] is equivalent to mass {m}, & $re-Action$, $-ve[S] = -ve\ mass\ \{-m\}$.==

We use [S] = E.t or 'action' = energy x time = [m]

Then $energy = [m]/t = [m/\gamma] = dm/dt = m-dot$

Re-action is –ve action & yields -ve mass which occurs for $-ve\ energy\ x\ time\ (+)\ energy\ x-ve\ time.$

So $-ve\ energy = -ve\ mass/\ t$, or, $-ve\ m-dot = [-m/\gamma]$

In lambda terms $energy = lambda^3 \sim Volume$ and $-ve\ energy = lambda^{-5} = k^5 = 1/m$

Thus we can derive a model standard $[\{-ve\ energy\ x\ mass\}\ (+)\ \{-ve\ mass\ x\ energy\}] = Unity$

Or, $-ve[m.m-dot] = 1$

The $-ve$ operator $1/\gamma^4$ is distributive across both masses and the $-dot$ operator,

in the latter case, we get $1/\gamma^5$ thus $[m.m] \equiv \gamma^5$

This is the Physical model *Wave equation*: a gamma variant on Force & <u>equivalent</u> to Newton's U.L.G.

Actually N.U.L.G is an historical frozen snapshot of a gravity wave equation.

Having produced the gamma concept we need –ve gamma

And we state

$$- ve\ \gamma\ =\ \omega$$

Gamma = [Mass/Volume] = $\frac{\lambda^5}{\lambda^3} = \lambda^2$ and can also be viewed as model metric density *Rho* ρ = [m/V]

Then System gamma,   γ = ρ   *a classical concept familiar to Archimedes of course*

Then system Omega = -ve ρ = -ve m/ V :   ω = -ve ρ

To return to this –ve mass, the *original concept* due to Dirac of course.

We state this is the system acceleration $[a]$.

Then $[a] = -ve\ mass\ =\ -m\ =\ 'gravity'$.

Locally in our Binary Mass scheme $[M.m]$ we say $-ve\ mass\ =\ [M.m]/\gamma^4$

And thus $\dfrac{1}{\gamma^4}$ is our model $-ve$ Operator.

$$Then\ -ve[M.m] = \frac{[Mm]}{\gamma^4} = \frac{[M.m]}{\lambda^8} = \frac{[10^{30}.10^{25}]}{[10^{11}]^8} = 10^{-33} = [h]$$

thus our familiar Planck unit, $= local\ system\ 'gravity\ pixel', in\ o.o.m.\ terms\ here.$

We suspect coincidences in Science are opportunities for insight.

N.2.L. occurs for the product of inertial mass x gravitational mass

i.e. we call the system –ve m = *gravity* mass.

then $F = ma$

is equivalent to model variant Gamma

$$\gamma\ =\ M.m.\,h$$

We need to know more about the wave equation in the model.

This is constructed through a general identity introduced here as a *Royal road* over-arching identity/equation in Physics

& by that we propose, if this identity is not held in *any* given work or theory in Science then it is not a Physical theory in Nature.

$$[\Psi - dot]^2\ =\ \Psi\ .\ \Psi - dd$$

We note here $\left[\frac{\psi}{\gamma}\right]^2$ is resonant of Born's interpretation of squares of Amplitude gives *probabilities* of measured observables etc, & we add that +ve/-ve integer exponents of lambda parameters is a nod to Bohr's integer values of complete waves in quantum scale systems.

$$from, \quad [\Psi - dot]^2 \; = \; \Psi \cdot \Psi - dd$$

$$then, \quad \psi - dot \; = \; \frac{\psi}{\left[\frac{\psi}{\gamma}\right]} \cdot \frac{\psi}{[\gamma \cdot \gamma]}$$

The model Wave equation $\quad \Psi - dot \; = \; \gamma \cdot \psi - dd$

$$-dd \; =' \; double - dot' \, operator \; 2nd \; order \; in \; time, \, familiar \; = \frac{d^2}{dt^2}$$

Psi can be any single parameter such as lambda, mass, time or combinations [m.λ], etc etc.

Let's use mass & -ve mass as examples.

$$\Psi \; = \; \{m\} \quad then \quad \{m - dot\}^2 \; = \; m \cdot m - dd \; \; or, \quad e^2 \; = \{ mass \; x \; lambda\} = [\lambda^6]$$

$$evocative \; of \; e^2 = [pc]^2 \; \; used \; to \; derive \; the \; Klein - Gordon \; eqn, \& \; also \; gives \; an \; associated \; \; w.eqn$$

$$m - dot \; = \; \gamma \cdot \lambda$$

$$or \; energy \; = \; gamma \; x \; lambda \; = \; [\, \lambda^3]$$

$$Similarly \; \psi \; = -ve \; m \quad or, \quad \psi \; = \; a \; \; gives,$$

$$[-ve \; m - dot \,]^2 \; = \; -ve \; m \cdot -vem - dd \,, \; \; Thus, \; w.eqn$$

$$-ve \; m - dot \; = \; \gamma \cdot -ve\lambda$$

We can of course use –ve m = [a] = [h] then

$$[h - dot]^2 \; = \; h \cdot h - dd \quad gives \; w.eqn: \; \; h - dot \; = \; \gamma \cdot h - dd$$

$$\&/or \; [a - dot]^2 \; = \; a \cdot a - dd \; \; gives \; w.eqn: \; \; a - dot \; = \; \gamma \cdot a - dd$$

$$We \; state \; here \; -ve \; lambda \; = \; Hooke \; K$$

$$from \; \left[\frac{\lambda}{\gamma^4}\right] = \left[\frac{\lambda}{\lambda^8}\right] = \frac{1}{\lambda^7} = \; k^7 = \frac{1}{m \cdot \gamma} = \; reciprocal \; [I\,] = system \; Hooke \; constant \; [K]$$

$$Also \; we \; glean \, 'system' \; k \; = \; 1/\lambda \quad \& \; \; k \; = \; \lambda/\gamma$$

So we have here –ve m-dot = a-dot = h-dot, lends us another identity, stated here

$$[h \cdot h - dot] \; = \; -ve \; 1$$

Complementarity of a fashion is proposed for our model, and we use the concept of the familiar complex wheel

Which has a.c.w & c.w phase rotations from the horizontal r.h.s. datum line at Unity = $\lambda^0 = 1$,
the unit radius is generally used.

The model is scale invariant so any magnitude lambda will work from 'quantum scale' to Cosmological considerations. The only condition is $\lambda > \{0\}$, *else we don't have a physical system.*

We might have noticed from the Psi identity employed for +ve/-ve {m} we get respectively

$$a.c.w \ sense \quad e^2 \ = \ lambda^6$$

is *coincident* **or shares a peg on the wheel with**

$$c.w. \ sense \quad \{-ve \ e\}^2 \ = \ k^{10}$$

The model proposes that Nature employs +ve & –ve integer exponents with complete impartiality w.r.t. sign.

A.C.W. phase rotations are [λ^n], & C.W. rotation signifies [k^n], or $k^n = \lambda^{-n}$.

$$e.g. \ lambda^2 = gamma \ [\gamma] \ force \ or \ time, \quad \& \quad \lambda^{-2} = \frac{1}{\gamma} = k^2 = frequency \ [f]$$

We can explore the case for temperature here.

We say from Thermodynamic considerations $K.T = m$

we can get, $T = m.m.\gamma = [\lambda^{12}]$ **or, T = { m . I }** *where I = [m.γ }*

then conventionally speaking using *a tandem or double –ve sign yields a +ve*

$$we \ can \ say \quad -ve.-ve \ T \ = \ -ve \ m .-ve \ m .\gamma$$

$$\& \ we \ know, \quad -ve \ m \ = \ [a] \ = \ [h], \quad we \ get$$

$$-ve.-ve \ T \ = \ h.h.\gamma$$

$$then \quad -ve.-ve \ T/\gamma \ = \ h.h$$

$$= \ \{-ve .-ve \ T\} - dot \ = \ h^2$$

We now employ the $-ve \ operator \ = \ 1/gamma^4$ **again, which runs c.w. on the wheel.**

So we state –ve T = momentum [p] *& tandem –ve here,* **-ve [p] = system [π]**

Then, [π]-dot $= \pi/\gamma = \pi f$ = h.h = Omega [ω], & classically [2]$\pi f = \omega$

Which is a model standard $\omega \ = \ h^2 \ = \ a^2$

System omega can also be represented by $\omega = p.E = \dfrac{mk}{mm} \sim \dfrac{k}{m}$ explanatory of wave particle duality

of course as **k** is a *wave number* & $k/m \equiv \dfrac{1}{m.\lambda}$,

variant $\omega.m.\lambda = 1$ allows Dirac eqn. m{ψ} = iγ.k{ψ}, where, i = γ^2 = p, & d/dx = d/dλ = k

$\&$ *related quasi* Kepler K.3.L. via $\omega m = k$, then $\dfrac{m-dot}{p} = \{1/\lambda\} = \lambda^3/\gamma^2 = R^3/T^2$

$\& \; further \; identities \; allow = \; m.\dfrac{dS}{dt} = e.S$, *where* [S] = entropy not Action here,

$\& - ve[a] = -ve\;h = \dfrac{dS}{dt} = [\dfrac{S}{\gamma}] = S - dot = k^{11}\;c.w.peg,$

which means entropy $[S] = c.w.\,[\,k^9\,]$

Also we 'see' on our wheel of 16 pegs,

The acw $'peg'\;T - dot = lambda^{10}$ is coincident with cw $'peg'\;\omega = k^6.$

Our model allows for a view that gravity is an emergent property in our local scheme.

From previous,

$[h - dot]^2 = h\,.\,h - dd \quad identical \; to \quad [a - dot]^2 = a\,.\,a - dd$

$where, \quad [a] = [h] = [k^3] \quad \& \; l.h.s \; of \; both \; identities = E = 1/mm = [k^{10}]$

$Also, \quad [h - dd] = [a - dd] = Hooke\;[K] = \dfrac{1}{m.\gamma} = [k^7]$

$Thus, \; [k^{10}] = [k^3].[k^7]$

$Then, \; gravity \; a = \dfrac{E}{K} = E.I$

$= \dfrac{1}{mm}\,.\,m.\gamma = \dfrac{m.\gamma}{mm}\,, \quad \& \; [m/m] \; cancellation \; allows?$

$a = \dfrac{\gamma}{m} = \dfrac{1}{e}$

Or, $a.e = Unity \; expresses \; our \; proposed \; Gravity \; wave \; eqn$

This is a unity reciprocity relationship, where we can state some broad conclusions.

Large lambda schemes have low gravity $[k^3]$ *& very low entropy* $[S] = k^9$,
& small lambda systems have high gravity & very high entropy.

$Thus, respectively, large \; systems \; (Cosmological \; scale) \; emulate \; in \; equillibrium \; a \; steady$
$- state \; existence, \& \; atomic \; scale \; schemes \; (quantum) \; exhibit \; Big \; bang \; properties.$

$The \; long \; sought \; link \; between \; quantum \; gravity \; \& \; G.R. \; is \; evident \; as \; the \; [h] \; gravity \; pixel,$

$within \; our \; Solar \; backyard, as$

$$\Gamma = [Mm].[-veMm] = Mm.h$$

This indicates the physical Lambda system is scale invariant and system numbers will result

applicable to local conditions factored on lambda^n , or in other words

there are No Universal constants in Nature.

The fact that gravity is *quantized* is inescapable, Bohr et al, yet *a continuum* is proved for Einstein, as the *Multi-verse paradigm* allows other 'contemporaneous' systems out there having differing values of local [h].

It might be possible in future exploration to gauge a local [h] on Mars, where at first approximation , it may well be $[a] = 1/V = k^3$, and as Sun-Mars lambda is >Sun Earth case we may expect a lower magnitude local [h] all other things being equal.

Needless to say differing local numbers will give rise to differing chemistry & biology for separated schemes, nuanced fine tuning arguments apply.

Reflections on previous views of known constants & identities/ Laws of Nature.

It is possible that the Uncertainty Principle may have caused some confusion, whereby this model will see this *U.P.* as a corruption of the model identity

$$acw \ [\lambda^5] = mass \ [m] \ is \ found \ from \ the \ acw \ sense \ product \ [p.\lambda] = [\lambda^4.\lambda]$$

Also found from, $[m] = [\ \gamma.e\ ] = [\lambda^2.\lambda^3]$, again this is the Strong case for the $[\lambda^n]$ integer exponent paradigm of the Physical model.

The de Broglie is the *–ve* case,

i.e model λ = m/p works well for +ve mass as shown above.

However, λ = h/p has to take account of the *–ve* m = a = h view.

Thus we need to supply a –ve somewhere to balance this out.

Say, h = [-veλ. P] will work & h = [λ.-vep] will likewise serve.

Thus, $-ve \ lambda = Hooke \ K = [k^7], and -ve \ momentum = system \ pi = [k^4]$

Respectively but <u>not both</u> inserted in the relevant place, and the U.P. *potentially might have been*?,

<p style="text-align:center">h = { (+ve/-ve) λ . (–ve/+ve) p }</p>

$$the \ +ve \ lambda \ in \ product \ with -ve \ p$$

$$\frac{\&}{or} -ve \ lambda \ in \ product \ with +ve \ p,$$

in fact a superposition of both possibilities, where λ^8 or k^8 differential

may effectively allow for a range to be $\nabla lambda$ & $\nabla momentum$ in a sense

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$$Note: Action \ \& \ Reaction \ are * wave \ equations \ derivable$$

$$from \ letting \ model \ Psi = \ 'Moment \ of \ Inetia'$$

$$Specificially \ action \ expressed, \quad \gamma.m - dot = m, \ from \ \psi = \{m.\gamma\}$$

$$\& \ Reaction = -ve \ Action \ -ve \ \gamma.m - dot = -ve \ m \ equivalent \ to, \quad \omega.m - dot = k - dot,$$
$$Omega.energy = gravity, \quad from \quad \psi = -ve\{m.\gamma\}$$

The respective +ve & -ve Psi inserted into, * ψ-dot = Y . ψ-dd

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The idea of a maximum velocity in Nature has no obvious support in the model, others systems will have differing k-numbers, c for photonic scale system, & G for our local binary, etc.

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Something else arises in this model which is not immediately obvious, the action of cancellations can be confusing &/or misleading perhaps. Say in the classical view of periods of pendulum scenarios will allow a view that mass is redundant for $T = 2\pi \left[\frac{l}{g}\right]^{\frac{1}{2}}$, and simple cases like cancelling mass across K.E. = P.E. situations.

This model says we must not negate mass, & put simply,

$$\left[\frac{m}{m}\right] = 1 \ can \ be \ shorthand \ for -ve[m.e] = [a.e] = \gamma - dot$$

& albeit gamma-dot = [γ/γ], is always nominally [1] = unity, the point is that the masses do not actually disappear in real physical cases, or model applications. Conventional math allows cancellations for ease of calculation.

The dynamic fluxions of acc & energy for instance, has been masked somewhat, but not totally discarded or lost!. Thus we may retain & add value, readily derived from these erstwhile historically hidden parameters, or the hidden variables have always been there in plain sight.

Reference Galactic Rotation Curves conundrums & darkness paradigms currently in vogue, it is important in these cases to use local system numbers, for example Galactic scale [k] not Newtonian [G] which is a local system number. It is obvious that *Geometry* is writ large in Nature and this dynamic element can cause us to experience local time-force. We may think that model 'gamma' time is not necessarily a *fourth dimension,* rather a cosmic onion of centric & conservative acting laminae of Area at any particular & multiple lambda value, & this time = force plane is always orthogonal to all three familiar axes, evident as Surface Area in geometry sense.

The model offers entropy or specifically $rate \ of \ entropy \ S - dot = dS/dt$ as a possibility,

 Where **–ve** acceleration = **-ve.-ve** mass gives $k^{11} = \left[10^{-11}\right]^{11} = 10^{-121}$ v close to modern accepted estimates of Einstein's cosmological constant Λ. Note: S-dot is **–ve** acc so would counter gravity, *dark energy* in a sense.

If we say in a *'balanced closed'* system that there are <u>no unbalanced</u> forces. We can then allow from the model view, [**–ve** Gamma = Omega], a new gamma-time paradigm. Time is not only geometric & local, but also as Gamma = time, *we have thro N.3.L.* **–ve t = ω** to effectively cancel the *conventional* +ve t, such that within equillibriated systems,… net time-flow is zero.

Time in balanced systems may appear frozen, or null time through dynamic mutual opposition of system gamma & omega.

What may classically persist as a background clock 'reality' may well be an illusion, a phenomenon of differential ageing rate/s caused by common place or common sense notions of ageing effects thro observing localised nested gamma systems interplay within our larger Macro scheme.

Each & every system 'out there' will potentially have their own dynamic time scales through local numbers at large. Galaxies & V large Cosmological systems, will have a vast array of nested γ-systems in largely isolated states of time awareness, local effects & gross or composite effects may seem very different in magnitude & phenomenal experience.

If we travel 'there'! we must accept the local clocks & rods, & we will change the set-up, if only infinitesimally by our arrivals & departures. Presence &/or absence will amount to +/- ∇m this will affect everything about the system whether the mass is sentient, a mouse or a rock. System omega = 1/{mass x lambda}. So much for Conscious observers.

The 2nd Law of Thermodynamics & Eddington's maxim nuanced in the model.

The law that entropy always increases holds, I think, the supreme position among the laws of Nature.

If someone points out to you that your pet theory of the universe is in disagreement with Maxwell's equations
— then so much the worse for Maxwell's equations.

If it is found to be contradicted by observation — well, these experimentalists do bungle things sometimes.

But if your theory is found to be against the second law of thermodynamics I can give you no hope;
there is nothing for it but to collapse in deepest humiliation.

— Sir Arthur Stanley Eddington, The Nature of the Physical World (1927)

In our model entropy $[S] = [k^9]$ c..w. sense on the wheel. If a system grows or increases size
$\lambda s \uparrow$ therefore $[k] - number \downarrow$.
Increasing lambda is equivalent to increasing time, as $\gamma - time = [lambda^2]$, therefore as
$\gamma \uparrow$ or $\lambda^2 \uparrow \cdots . k^9 \downarrow$ this seems counter or inviting Maxwell's demon into play.
However what seems important here is reciprocal entropy $1/[S] = \lambda^9$ & that obviously increase with Area-time
&/or system lambda. Likewise $1/[S - dot]$ also increases and that is our recently proposed dark paradigm,
for $-ve$ gravity. It counters attractive or conservative $+ve[a]$, lets call it dark matter, but conventionally it might be
referred to as dark energy*, this is labelling & not important here. It is $-ve\ acc$ or $-ve. -ve\ mass$.

Now a process no matter how small in magnitude that opposes the attractive force, will allow for more expansion
or less contraction than the conventionally accepted case. This allows cooling or temperature regulation.

We will now use a model chimaera, say the phenomenon **[B]**-field is small lambda system entropy,
Or **[B]** is equivalent to notions of entropy like **[S]**.
Then,
$$B - dot = dB/dt = S - dot = dS/dt$$

And we employ Farday's Law expressed in Maxwell E-M….a la mode
$$-ve\frac{dS}{dt} = -vek. E$$
$$Then \quad S - dot = k. E$$
$$= k. 1/mm$$
$$= \lambda/mm. \gamma$$
$$Or, \quad m. m. \gamma = lambda/S - dot = [\lambda. \gamma]/S = e/S = lambda^{12}$$

$$\& \ as \ S = K - dot, \quad and \ [mm\gamma] = lambda^{12} = Temperature\ T, \quad we\ get$$
$$T = mass/K \quad \&/or \quad T = m - dot/S$$

$$Thus\ system\ energy\ [m - dot]\ gives \quad e = S. T \quad \frac{\&}{or} \quad T = e/S\ ,$$

As stated previously if <u>energy remains *relatively constant*</u> i.e. we <u>cannot</u> import any *new* energy *or mass* into our system yet *thro artifice increase its 'natural' size*, then T must reduce, thro molecular diaspora.

This of necessity allows cooling if <mark>entaxy or reciprocal entropy</mark> goes up with increasing size of our imaginary *spherical* 'box'. This is consistent with classical Gas Law lore, and is a model nuanced view on the Carnot cycle, Clausius & respectable Gas Laws etc, etc.

The classic paradigm of gas molecules in a box, allows for a simple demonstration of a removable partition, when withdrawn, enlarging Volume. Thus the molecules disperse into the larger space over exhaustive time, as accepted example of entropy in action.

The model view of dynamic lambda systems would say that the system lambda, Gamma, & energy, represent Geometry as Length, Area & Volume, & these observables are measureable yardsticks of a system at rest in equilibrium. Thus an increase of lambda will *accommodate* greater energy for instance as m-dot = V.

If in a closed system we <u>cannot / do not</u> increase the energy or mass present in a scheme, the newly increased ∇V may indicate a *–ve energy vacuum* condition exists, i.e. we have more volume than we should expect given the available energy budget. Nature abhors a vacuum, what will happen?

We 'go to' our system wave equation **–ve[m.m-dot] = 1**   i.e. *–ve energy = reciprocal mass*,

Therefore, if we want to backfill our newly acquired –ve energy state

we need to borrow something from the massy component of the system.

$$Then\ we\ see\ that, \quad \frac{1}{m} = a-dot = \frac{da}{dt} \ , \&\ this\ works\ out\ fine\ as\ [a]\ =\ -ve\ mass$$

$$then, [a-dot]\ =\ \frac{da}{dt}\ =\ -ve\frac{dm}{dt}$$

i.e –ve energy flows from the 'rate of change' conduit of gravity induced by self regulatory system efforts to re-equillibriate the dynamic change of conditions presented by an increased spatial dimension.

This is push pull mechanics in Action, now we need a +ve feedback mechanism to regulate

this –ve mass 'run' on da/dt.

That is supplied by $S-dot\ =\ -ve\frac{da}{dt} \ll \frac{da}{dt}$ & acts to oppose it.

As the system balances out <u>in conventional time</u> the relative magnitudes involved will decay exponentially and transient away, as we successfully backfill our –ve energy hole.

This is a putative mechanism for expansion as intermediate state in a popular paradigm that allows Big Bang to race to steady-state condition, and is supportive of the accepted mass energy equivalence view in relativity.

Our wave equation facilitates to & fro, $-ve\ [m.m-dot]\ =\ 1$,   quasi Schrodinger's TISE &/or TDSE

further [ω]s,= [h.h] allows us to step effortlessly to ω-dot,

or $$[\,h\,.\,h-dot\,]\ =\ -ve\ 1$$

$The\ system\ acts\ to\ perpetually\ self-regulate, +ve\ 1\ is\ balanced\ with -ve\ 1,$
$\quad\quad similarly\ +ve\ i\ is\ balanced\ by -ve\ i,\ \&\ so\ on,, acw\ \&\ cw\ coincidence\ pegs,$
$\quad\quad point\ \&\ counter-point. Indicative\ of\ +ve\ \&$
$\quad\quad -ve\ integer\ exponents\ on\ System\ lambda\ in\ ceaseless\ roar\ \&\ whisper\ of\ taijitu\ rotation.$

contraria sunt complementa

Reprise: Heisenberg's U.P.

We use the 2 standard definitions: $\nabla x . \nabla p = h - bar$ & $\nabla E . \nabla t = h - bar$

so they are equivalent, or ignoring the deltas here, we say they are artefact of an historically motivated quantum variant, perhaps?

 Then, $[\, p . \lambda \,] \equiv [\, E . t \,]$, & *on the Unity lambda wheel we say they equal mass* $[m] = [\lambda^5]$ *acw*

We make the usual model assumptions $[x] = \lambda$, *and say* $[h - bar]$ *is* $\approx$ *equivalent to* $[\, h \,]$
& we will jump between these 2 versions of Planck & *reduced Planck at will, finally our generic*

model view that $-ve$ *mass* $= [a] = [h]$ *or Planck* $[h]$ *is our local* <mark>*pixel of gravity*</mark>.

The current argument potentially supports historic expressions of related or simlar independent ideas ∗

of S.Weinberg et al that a Unification scenario results at a point circa $[Atomic\ Nucleus\ x\ 10^{-17}]$

- **& I stress this is my interpretation and absolves all other innocent parties mentioned above.**

well this is the Nucleus dimension say $\{10^{-14} --- 10^{-15}\} \div 10^{17} = \dfrac{[\lambda] nuc}{c^2}$

<mark>$= 10^{-32}$ *circa* $[h]$ *& or* $h - bar$. *& incidentally the electron* *& model photon mass.*</mark>

Note: $\dfrac{\lambda}{c^2} = \left[\dfrac{\lambda}{\lambda . \lambda - dd}\right] = \dfrac{1}{\lambda - dd} = \dfrac{1}{a} = m - dot = e,$ *or,* $[e . a] = Unity,$
where small lambda systems have low energy & *v high gravity*.

Thus <u>*we unify gravity with the rest of physics*</u> *if we accept our local binary provides this particular gravity pixel magnitude. Again this is our local system and is* <u>*unlikely to be the Universally*</u> *held convergence scenario, though clearly it may work here! So we have the [2] pared down or' upgraded' Heisenberg's yield* $-ve$ *mass, therefore we must insert a* $-ve$ *on l.h.s.to products [p.λ] and [E.t], & from here on, we use the model versions of energy & time say, [m-dot] & [γ] respectively, which means another assumption of nomenclature is made.*

Then, $[\, p . \lambda \,]\ x\ [\, m - dot . \gamma \,] = \mathbf{h . h}$ *or*

$m . m - dot = [\mathbf{h . h}] / \gamma = h . h - dot$

we note $[mm]$, λ^{10} *acw is coincident with c.w.* k^6, $[h . h]$

Now the advantage of restoring the h-bar,

where h-bar = h/2π, thus [h-bar]^2 = ¼ [h.h-dot]/ π^2

And model π^2 = -ve 1 = k^8 = λ^8 as convergence pegs.

Then, $m . m - dot = [\, h . h - dot \,]$ */-ve1*

or $-ve\, [m . m = dot] = [h . h - dot]$

Now we have a toggle effect , as the proposed model view is

$-ve$*[m . m-dot] = Unity,*   & *[h. h-dot] = -ve Unity*

We can resolve this by saying omega = -ve gamma, & let [h.h-dot/-ve1] ≡ -ve[h.h-dot] ≡ -ve.-ve 1 ≡ +1 = Unity

So we can find for both identities, and include our dark energy candidate S-dot, as $-ve.-ve\ m \equiv -ve\ a \equiv -ve[h]$

Not to forget $-ve[h\text{-}dot] = S\text{-}dd.$, *which is* $-ve.\ -ve\ m\text{-}dot$ *i.e.* $-ve.-ve$ *energy, I wonder is this a candidate for dark mass as partner to our previous find of local dark energy.*

<mark>*Dark mass S* $- dd = \dfrac{d^2 S}{dt^2} = [k^{13}] =$ <mark>10^{-143}</mark>, *or so. It may require circa* <mark>10^{43}</mark> *GeV to recreate these pixels of unification, i.e. a Collider System comparable in size to our local binary scheme?*</mark>

The normalized complimentary pairs assumption seen in model proposed within Heisenberg can also be seen in the conventional Schrodinger eqn again with model nuance, as caveat.

Assumtions [i] = momentum [p] = mk = m/λ, and previously used model identiries.

We start with the conventional Scrodinger eqn the time dependent general version.

we drop Psi to prove purely for the remaining terms i.e. Hamiltonian is generic energy both kinetic & Potential in its most simple applications here. This allows us to prove for classical action & re-action, i.e. mass & acceleration, will drop out inclusive of energy, -ve energy if we want & the system omega as proosed in the physical lambda model.

Say
$$i\hbar.\frac{\partial}{dt}[\psi(t)>] = H[\psi(t)>]$$

Gives,   p. [-ve m]/2π = Hamiltonian energy, or model m-dot

Of some function Psi which we have placed to one side for now, & *'my hands have not left my wrists'.*

By using the model –ve operator we can find for action & re-action, mass & gravity to suit our needs,

Thus   [-vem . p^2]/2 . f = m-dot

[-ve m . γ^4] . 1/γ = [2]- states of energy, { K.E. (+) P.E }

= m-dot   *consolidated as* H[ψ(t)>], *etc*

Giving   m   = γ.m-dot   model (Einstein) & Action

Or   -ve m .1/γ   = m-dot/γ^4 = m/γ^5 = m/mm

-ve m-dot   = 1/m   our model familiar

Thus   -ve m   = γ/m   model Action

a   = 1/e

Incidentally $acw \; \gamma^4 \; cw.\gamma^4$ & $1/\gamma^4$ are all coincident at the $-ve \; 1 \; l.h.s$ horizontal peg

on our complex unity lambda wheel. This allows for superposition in systems

We can also find System Omega nested within, by similar algebraic steps

From

Action $m = gamma. Energy, \; -ve \; mass \; or \; acc \; [a] = -ve \; [\gamma.e]$

$a = \omega.e \; (+) \; t.-ve \; e$

we see here gravity is a superposition state,

$\&\; omega \quad \omega = a/e = k-dot/m-dot = k.\gamma/\gamma.m = \dfrac{k}{m} = -ve\{t\}$

We must be clear that when it comes to atoms, language can be used only as in **poetry**. *Neils Bohr*

Lets look at the spin of the electron, we have in quantum measurement scenarios,

two & only [2] possible values [$h/4\pi$, $-h/4\pi$], and these indicate c.w. & acw states.

Standard model assumptions apply.

We generally ignore numerical coefficients as an expression of multiple equivalent states, etc.

$$\frac{h}{4\pi} = -vem/[4]\pi \quad c.w. \ gives \ -ve \ m.\ p = k^3.\lambda^4 = \lambda$$

or $a.p = \lambda$,   a variant model de Broglie,   but $p = m.k = m/\lambda$ thus $a = \lambda/p$ gives $\lambda/[m/\lambda] = \gamma/m$

or $-m.m = \gamma$ our old familiar.

Now , the acw spin case $-\dfrac{h}{4\pi} \sim$ -ve.-ve m/π = - a/π = S-dot $/\pi$ = S.p-dot $= \gamma.S = [K]$ 'Hooke' $= k^7$

where S is equivalent to [B] in E-M theory, thus S-dot = dB/dt

$$= \quad k^{11}.\lambda^4 = \quad k^7 \quad = \quad \frac{1}{mass.gamma} = 1/moment \ of \ inertia$$

So $\qquad\qquad -ve\ [m.h] = \dfrac{\pi}{\gamma} = \pi.f = \pi - dot = \omega$

Or $\qquad\qquad -vem.h\ (+)\ m. -ve\ h = \omega$

$$gives, \ h^2 \ (+) \ m.S - dot = System \ omega.$$

In science one tries to tell people, in such a way as to be understood by everyone, something that no one ever knew before.

But in the case of poetry, it's the exact opposite! P.A.M.Dirac

This of course indicates that the spin of the electron is essentially a quantum theory artefact

of the model view that this is potentially /fundamentally ? a pixel of gravity modulus [h]of Planck et al.

thus c.c.w. spin occurs for − ve time & cw spin may be + ve time developments of the Schrodinger eqn

In the model view time is in equillibrium in closed balanced force schemes.

Thus in measurement terms we will always discover one or other state/s,

in a field of [2], fifty fifty odds are most likely for large no. of samples,

this is also perhaps a variant expression of the Pauli principle

& similar measurement paradigms, as system gamma & omega occupy

respectively, diametrically opposing pegs on our wheel.

Of course multiple body systems[n] x interacting electrons will

display familiar randomness.

God may or may not be playing dice, but seemingly perhaps, he has a result in both time camps, always! &

the field of possible results is essentially classical or deterministic

within the limits of respected statistical Laws for observers to determine at will.

as observers we can go with faith,   or fashion in Q.M. as a current model say,   but the notion that we are of fundamental importance

in the Grand scheme may seem somewhat fantastical. Yet throughout, the endlessly great mystery of Nature in her majesty!
is forever & at all times infinitely beautiful & wondrous to behold, & ponder.

Looking again at the 2 known states for electron spin & extrapolation within model guidelines.

$We\ allow\ that,\quad state\ 1: acw\ case\quad h/4\pi\ \sim\ -vem/\pi\ =\ -m.p$

$\&\ state\ 2:\ c.w.case\ \ -h/p\ \sim\ -ve.-ve\ m/\pi\ =\ -.-m.p$

And posit this offers perhaps a non-trivial 3rd state within this model? $[\ m.p\ ]$

Then we have a cascade of sorts, staring with nominally the +ve case

situated on the wheel at acw $[\ \lambda^9]$

then   *[mp] rotating by* $1/\gamma^4 = -ve\ operator$

gives, -ve [m.p] followed by a 2nd rotation or tandem –ve operator yields lambda

gives, -ve.-ve [m.p] a total rotation of $1/\gamma^8\ yields - ve\ lambda\ =\ Hooke\ [K]\ =\ [k^7]$

contributes 1 full cw cycle or minus 2π conventionally

we might say start at the bottom layer here and travel by identical c.w. step rotations, thus classic physic time reversal conundrum is seen here. We can drill down and see the steps produced at discrete levels of lambda & system k which may reveal deeper insight.

Let [m.p] = [m. mk], & we reproduce the above arguments.

m.m.k

-ve [m.m.k] gives -ve m .mk (+) m . –ve m .k (+) m.m. -ve k   where terms 1 & 2 are commutative

-ve. –ve[m.m.k] gives, -ve. -ve m . m.k (+) –ve m. -ve m . k (+) m. –ve m. –ve k (+) m . m . –ve.-ve k

Ignoring redundant terms

$Thus\ we\ have\ several\ known\ phenomena\ taking\ place,$

$nominally,\ lambda^9\ (+)\ lambda\ (+)\ k^7$

Here we see a rolling 'spin-wave' thro mass & gravity, system k, Hooke, entropy & entropy rate,

[m.p] 1 term [m.m.k] = $\{\ \lambda^5.\lambda^5.k\ \}$

-ve[m.p] 2 terms of [3] -ve[m.m.k] = $\{\ k^3.\lambda^5.k\ \}\ (+)\ \{\lambda^5.\lambda^5.k^9\}$

-ve.-ve[m.p] 4 terms of [6], -ve.-ve[m.m.k]$\{\ k^{11}.\lambda^5\ .k\ \}\ (+)\ \{\ k^3.k^3.k\}\ (+)\ \{\ \lambda^5\ .k^3\ .k^9\ \}(+)\{\lambda^5.\lambda^5.k^{17}\}$

$$We\ can\ see\ some\ very\ large\ magnitude\ [k^n\ ]terms\ here,$$

if we assume the Atomic electron system is circa $Angstrom\ x\ [\ 0.1\ <\lambda<1]\ circa\ 10^{-11}\ m\ or\ so,$

we get a small magnitude lambda set,

$$system\ Force=\lambda^2=10^{-22},\quad system\ energy\ =\ 10^{-33},\&\ mass=10^{-55}\ which\ is\ our$$

electron-proton mass binary product, and this is our broad classical picture of a Hydrogen system.

However system k-numbers take an inverse magnitude form on lambda magnitudes.

$-ve\ mass\ =\ a\ =\ k^3=10^{33},\ Hooke\ K=\ k^7=\ 10^{77}\ and\ entropy-rate\ @\ 10^{99},$ *of course these would be expected to be, very short range, sub Atom e.g. Coulombic [K] = system [k] circa* 10^{11}

$\&\ include\ gravity\ k^3=\ 10^{33}\ \ or\ so$ *, but* $[k^n]$ *magnitudes much greater than these, might extend beyond the atom into the realms of magnetism perhaps, potentially an entangling paradigm is in hazy view.*

We note entropy is –ve Coulomb K,

& entropy-rate $dS/dt\ is-ve\ gravity,\ equivalence\ with\ a\ =-dB/dt.$

this is the model gamma identity for E-M in Maxwell's Faraday expression.

The last term in $-ve.-ve[m.m.k]\ yields\ [m.m].-ve.-ve\ k,=\ [m.m].[k^{17}],$

i.e. k^{17} *, moderated by [mm] to yield Hooke K*

But k^{17} *is potentially there! if only for an infinitesimal period of 'time' & this is truly enormous*

at 10^{187} *In a sense we can create an exotic nuclear force here, albeit we see* $k^{17}\ is\ coincident\ with\ k$

so it may revert to Coulomb magnitude ?

However we can look at this $[mmk^{17}]\ differently,$

$say\ [mm]/[mmm\gamma]=1/m\gamma,\ reciprocal\ moment\ of\ inertia\ 1/[\ I\ ]=\ Hooke\ [K]=\ k^7.$

We got that from the 2nd spin state $[-h/4\pi]$

or **–ve.-ve[m.p] = 1/m.γ** *here.*

Then **-ve.-ve [m.γ.γ] = 1/m.γ**

-ve. –ve m.γ^3 = 1/m = -ve m-dot

Thus, **-ve. m. γ^3 = m-dot**

a = ω .e *our old familiar*

$(-ve\ m)/(m-dot)\ =\ \omega$

-ve Y = Omega

This picture of the basic Atom is the phenomenological mirror image of our local binary system, & therefore if replicated on other systems we can expect an' infinite variety' of similar locally framed Atomic systems will abound in our neighbor-hood & beyond.

===

Two **roads** diverged in a wood and I - I took the one **less travelled** by, and that has made all the difference.

Robert Frost

EnanthiomorphicLambdamenuclassicalbinaryatom

'*It doesn't have to be like this,* …

$$\Lambda \quad 10^{-11} \qquad\qquad k \quad 10^{11}$$
$$\Gamma \quad 10^{-22} \qquad\qquad f \quad 10^{22}$$
$$E \quad 10^{-33} \qquad\qquad a \quad 10^{33}$$
$$P \quad 10^{-44} \qquad \pi \quad 10^{44}$$
$$M \quad 10^{-55} \qquad -ve\ e \quad 10^{55}$$
$$m.\lambda \quad 10^{-66} \qquad \omega \quad 10^{66}$$
$$I \quad 10^{-77} \qquad K \quad 10^{77}$$
$$M.E \quad 10^{-88} \qquad \pi^2 \quad 10^{88}$$
$$m.p \quad 10^{-99} \qquad S \quad 10^{99}$$
$$mm \quad 10^{-110} \qquad [-ve\ e]^2 \quad 10^{110}$$
$$mm.\lambda \quad 10^{-121} \qquad S-dot \quad 10^{121}$$
$$m.I \quad 10^{-132} \qquad \omega^2 \quad 10^{132}$$
$$m.I.\lambda \quad 10^{-143} \qquad S-dd \quad 10^{143}$$
$$I^2 \quad 10^{-154} \qquad -ve\omega \quad 10^{154}$$
$$M^3 \quad 10^{-165} \qquad \omega.S \quad 10^{165}$$
$$M^3.\lambda \quad 10^{-176} \qquad \omega.S.\lambda \quad 10^{176}$$

….*all we need to do is make sure we keep Talking'*   *S. Hawking.*

$The\ idea\ here\ is, Planck\ unit\ [h]\ the\ gravity\ pixel\ of\ our\ Large\ local\ system\ \ h = a = \lambda - dd$

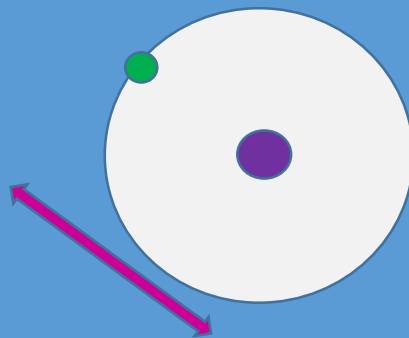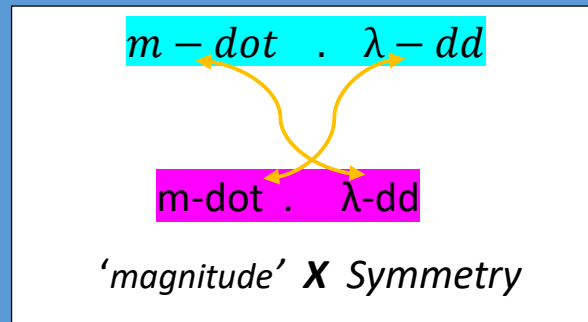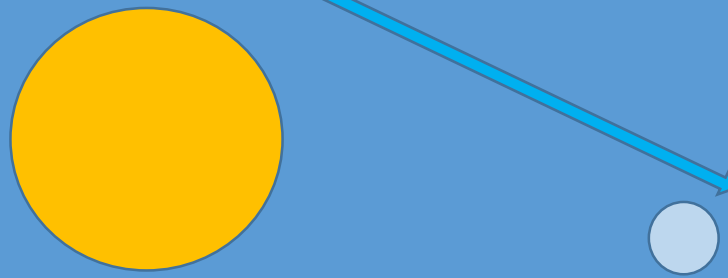$is\ also, the\ energy\ pixel\ of\ our\ local\ quantum\ system\ \ h = e = m - dot.$

$Then\ Spin\ states\ \dfrac{+}{-}\left[\dfrac{h}{4\pi}\right]\ yields\ \ S.1 = e.p = \left[10^{-33}.10^{-44}\right] = 10^{-77} = I\ moment\ of\ inertia$

$$S.2 = -ve\ [e.p] = \left\{\left[\tfrac{1}{m}.p\right](+)[e.\pi]\right\} = 10^{11} = k$$

$System\ Action, \qquad \gamma.e = \gamma.h = m \qquad = 10^{-55} \qquad Atomic\ binary\ mass.$
$-ve\ Action, \qquad \omega.e = \omega.h = a \qquad = 10^{33} \qquad Atomic\ gravity\ pixel.$

'**I can see the sky at the bottom of it now**.'   S.Heaney.

Fig 1: Enanthiomorphic 'nested' γ - systems

$m - dot \quad . \quad \lambda - dd$

m-dot . λ-dd

'magnitude' **X** Symmetry

$$\omega.m.\lambda = 1^2 \equiv a.e \ . \ a.e \approx 1$$

$$\frac{a}{e} \equiv \frac{a}{e}$$

Modulus &/or magnitude cross symmetries

$$mod\,[a] = mod\,[e] \ \& \ mod\,[e] = mod\,[a]$$